

Customer No. 35743 PLEASE ENTER -- see also Attorney Docket No. 57173-1481
Examiners Amendment

IN THE CLAIMS: /Catherine Witczak/ (03/06/2010)

Please amend the claims to read as follows. This is a complete listing of all prior art claims and replaces any prior listing in this application.

Claims 1-22 (canceled)

23. (Currently amended) A method for automatically refilling a syringe for ~~an~~ **a powered** angiographic injector arrangement, said method comprising:

completing a first injection **via the powered angiographic injector arrangement**;

sensing a volume of fluid remaining in a chamber of said syringe following the first injection;

providing a fluid reservoir in communication with said chamber;

receiving a user input associated with a subsequent injection **via said powered angiographic injector arrangement**, the user input comprising a safety parameter for the subsequent injection selected from the group consisting of maximum injection volume, maximum flow rate, maximum pressure, and rise time;

determining a preset volume of fluid necessary for the subsequent injection based on the user input;

comparing said volume remaining in said chamber with said preset volume of fluid; and

either

(a) advancing a plunger within said chamber of said syringe to perform the subsequent injection if said preset volume of fluid is equal to or less than the volume of fluid remaining in said chamber, or

(b) automatically retracting a plunger to a predetermined position within said chamber of said syringe to draw fluid from the fluid reservoir into the chamber if said preset volume of fluid is greater than the volume of fluid remaining in said chamber.

24. (previously presented) The method according to claim 23 wherein retracting the plunger to said predetermined position maximally fills said chamber of said syringe.

25. (previously presented) The method according to claim 23 wherein retracting the plunger to said predetermined position draws an amount of fluid into said chamber that partially fills said chamber of said syringe.

26. (previously presented) The method according to claim 23 further comprising:
after retracting the plunger, moving the plunger in a forward direction to purge air from said chamber of said syringe.

27. (Currently amended) A method for automatically refilling a syringe for an a powered injector arrangement, said method comprising:
sensing a volume of fluid in a chamber of said syringe following an injection via said powered injector arrangement;
providing a fluid reservoir in communication with said chamber;
receiving a user input associated with a subsequent injection via said powered injector arrangement, the user input comprising a safety parameter for the subsequent injection selected from the group consisting of maximum injection volume, maximum flow rate, maximum pressure, and rise time;
determining a preset amount of fluid necessary for the subsequent injection based on the user input;
comparing said volume in said chamber with said preset amount of fluid; and either

(a) advancing a plunger within said chamber of said syringe to perform the subsequent injection if said preset amount of fluid is equal to or less than the volume of fluid sensed in said chamber, or

(b) retracting a plunger to a predetermined position within said chamber of said syringe to draw fluid from the fluid reservoir into the chamber when said preset amount of fluid is greater than the volume of fluid sensed in said chamber.

28. (previously presented) The method according to claim 23 wherein said preset amount of fluid necessary for the subsequent injection comprises a maximum amount of radiographic contrast material to be injected.

29. (previously presented) The method according to claim 23 wherein said preset amount of fluid can be changed prior to or after any injection.

30. (previously presented) The method according to claim 27 wherein said preset amount of fluid can be changed prior to or after any injection.

31. (previously presented) The method according to claim 23 wherein the user input comprises a maximum injection volume for the subsequent injection.

32. (previously presented) The method according to claim 23, wherein the plunger is retracted at a first speed followed by a second speed, the first speed being slower than the second speed.

33. (previously presented) The method according to claim 32, wherein the first speed is about 2 mL/sec.

34. (previously presented) The method according to claim 33, wherein the second speed is about 3 mL/sec.

35. (previously presented) The method according to claim 32, wherein the plunger is retracted at the first speed until a predetermined volume of fluid has been drawn into the chamber.

36. (previously presented) The method according to claim 35, wherein the plunger is retracted at a rate of about 2 mL/sec until about 40 mL of fluid have been drawn into the chamber, and wherein the plunger is retracted at a rate of about 3 mL/sec thereafter.

37. (previously presented) The method according to claim 27, wherein the plunger is retracted at a first speed followed by a second speed, the first speed being slower than the second speed.

38. (previously presented) The method of claim 26 wherein said syringe is angled upward at about 10 to 20 degrees.

39. (previously presented) The method of claim 27 further comprising:
after retracting the plunger, moving the plunger in a forward direction to purge air from said chamber of said syringe.

40. (previously presented) The method of claim 39 wherein said syringe is angled upward at about 10 to 20 degrees.